



## ■ Features

- US standard input voltage 90-132 Vac
- IP20
- Short circuit / overload / over voltage protection
- Compliance with worldwide safety regulations for lighting
- 5 years warranty



## ■ Description

EV-SE-50-12US/24US is a US standard indoor ultra-thin constant voltage LED power supply. Its input voltage range is 90-132Vac, with high efficiency up to 88%, working in the temperature range of -20°C to +45°C ambient temperature range. It has ultra-high power factor, low THD, low standby power consumption, full protection function, which not only greatly improves the reliability of the product, but also ensures the life cycle of the product. This series is designed for LED lighting such as indoor bathroom mirror lamps and other lighting.

## ■ Model

Model	Rated output voltage	Rated output current	Max.output power	Tolerance	Total harmonic distortion (Typ.)	Power factor (Typ.)	Efficiency (Typ.)
EV-SE-50-12US	12V	0-4.17A	50W	±5%	6.5%	0.99	87.5%
EV-SE-50-24US	24V	0-2.08A	50W	±5%	6.5%	0.99	88%

**Remark:** All parameters NOT specially mentioned are measured at 120VAC input, full load and 25°C of ambient temperature.

## ■ Input

Parameter	Min. value	Typical value	Max. value	Note
Rated input voltage	100 Vac	-	120Vac	The derating curve is shown in the figure
Input voltage	90Vac	-	132Vac	
Input frequency 47Hz	47Hz	-	63Hz	-
Max. Input current	-	-	0.66A	90Vac, Full Load
	-	-	-	120Vac, Full Load
Input inrush current	-	-	60A	120Vac/60Hz, Cold Start
Power factor	0.98	0.99	-	120Vac, Full Load
Total harmonic input	-	6.5%	7%	120Vac, Full Load
Leakage current	-	-	0.7mA	120Vac/60Hz, Full Load
Stand-by power consumption	-	0.30W	0.5W	120Vac/60Hz, No Load

## ■ Output

Parameter	EV-SE-50-12US	EV-SE-50-24US	Note
Rated output voltage	12VDC	24VDC	Max. Output power should compliance to $P_o=V_o \cdot I_o=50W$
The min. output voltage (CC mode)	-	-	-
Rated output current	0-4.16A	0-2.08A	-
Output current ADJ. range	-	-	-
Rated output power	50W	50W	-
Rated output efficiency	88%	88%	120Vac/60HZ
Output current tolerance	-		-
Output voltage ripple (PK-PK)	±2%		Full load (Test under 20M bandwidth)
Output current ripple (PK-PK)	-		
Rise time	-		120Vac
Startup time	-		120Vac
Line regulation	±1%		Full load
Load regulation	±2%		-

## ■ Characteristic Curve

Fig. 1 Output load-Temperature curve

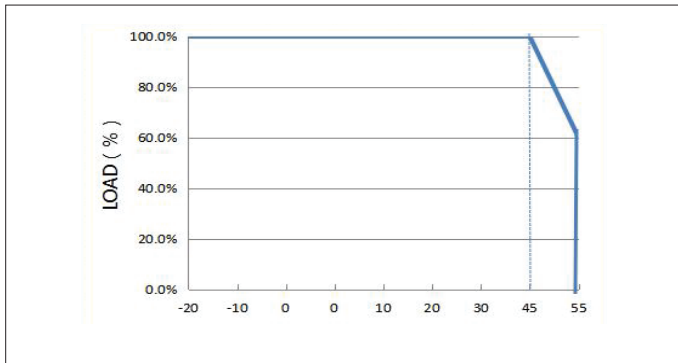


Fig. 2 Static characteristic curve

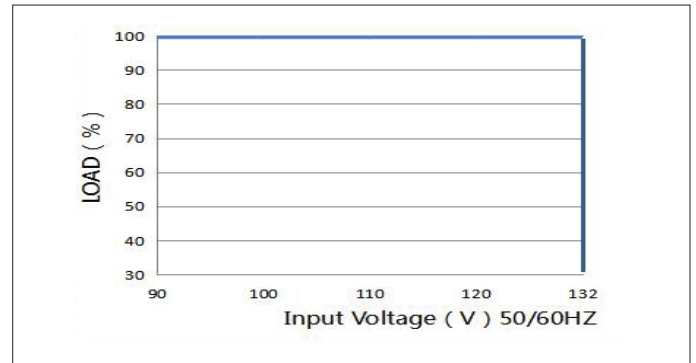


Fig. 3 I-V curve

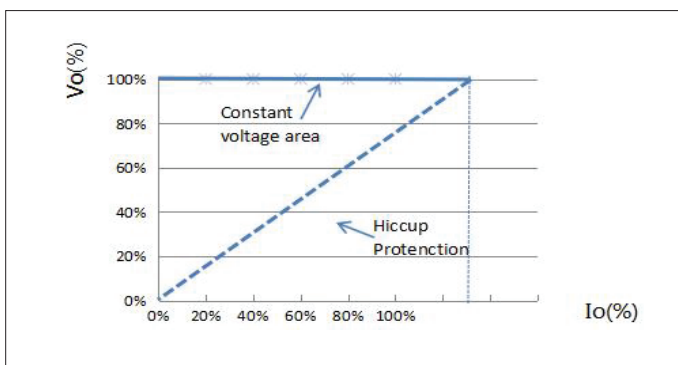
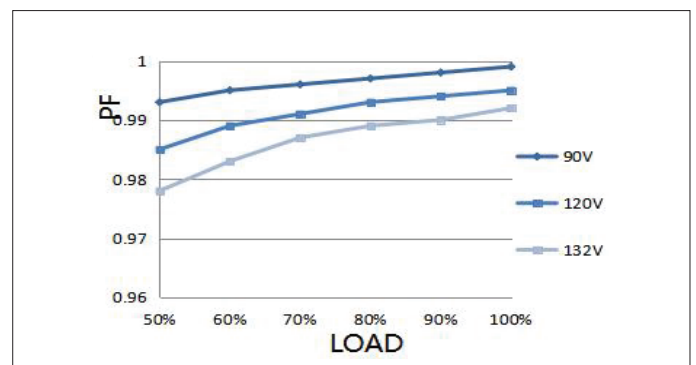
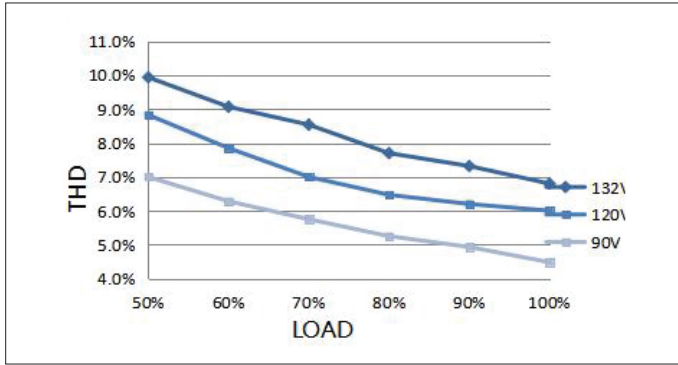


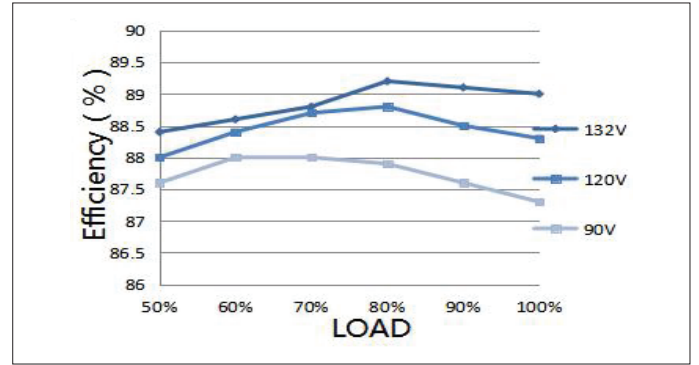
Fig. 4 Power factor characteristic curve



**Fig. 5 THD**



**Fig. 6 Efficiency-load**



## ■ Protection

Parameter		Conditions	Note
Protection	Over load	1.3 times of rated load	Auto-recovery after overload Removed.
	Short circuit	Short circuit power ≤ 1.3W	Hiccup mode, auto-recovery after short circuit removed.
	Over voltage	1.5 times of rated output voltage	Turn off the input voltage, can be restored after restart.
	Over temperature	110°C	Turn off the input voltage, can be restored after restart.

## ■ Environment Requirement

Parameter	Min.	Typ.	Max.	Note
Working temp.	-20°C	25°C	+45°C	See Fig.2
Storage temp.	-40°C	25°C	+85°C	-
Working humidity	10%RH	-	90%RH	-
Storage humidity	5%RH	-	95%RH	-
IP grade	-	IP20	IP20	-
Cooling mode	Natural cooling			-

**Remark:** All parameters NOT specially mentioned are typical values measured at 25°C of ambient temperature.

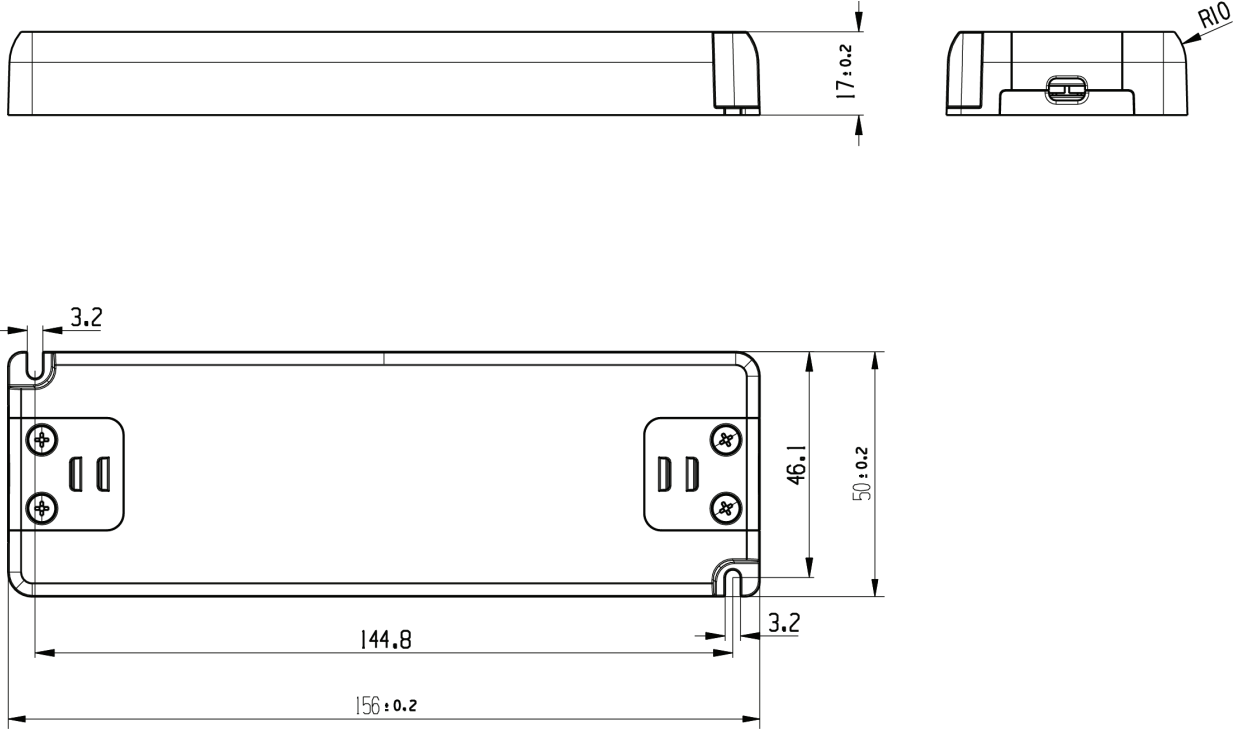
**■ Safety&EMC Standard**

Certificate	Safety standards.	Certification	Note
UL/CUL	UL8750	√	-
Safety test	Technical indexes	Note	
Safety project	UL8750	-	
EMC test	Standard	Criterion	
EMC	FCC PART 15	-	

**■ Others**

Parameter	Condition	Note
Lifetime	55,000 hours	120Vac, Full load, TC:75°C
MTBF	200,000hours	120Vac, Full load, Ta:25°C (MIL-HDBK-217F)
TC	85°C	-
Warranty	5 years	TC:75°C
Weight	145g	-
Dimensions	156*50*17mm	L x W x H

■ Mechanical Specification(Unit : mm)



AC input cable	SPT-2 18AWG
DC output cable	SPT-2 18AWG